Placement pretest 30   74 180 questions for elementary algebra m0310 0033016000 NEW NEW

Name_____

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MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Determine whether the ordered pair satisfies the equation.

1) $5x + 2y = 26$; $(4, 3)$

    A) Yes   B) No

1) _____

Answer: A
Objective: (7.4) Determine Whether an Ordered Pair Satisfies an Equation in Two Variables
final009 interactmath 7.3 #33

Solve the equation. Check your solution.

2) $3x - 8 = 4(x + 1)$

    A) {12}   B) {-4}   C) {-12}   D) {4}

2) _____

Answer: C
Objective: (8.3) Solve a Linear Equation with the Variable on Both Sides of the Equation
final017 interactmath 8.2 #53

3) $\dfrac{5x}{2} + 3 = \dfrac{1}{7}$

    A) $\left\{\dfrac{2}{5}\right\}$ B) $\left\{-\dfrac{8}{7}\right\}$ C) $\left\{-\dfrac{41}{35}\right\}$ D) $\left\{\dfrac{33}{35}\right\}$

3) _____

Answer: B
Objective: (8.4) Use the Least Common Denominator to Solve a Linear Equation Containing Fractions
final018 interactmath 8.3 #29

4) $x + 7.1x = 234.9$

    A) {2.9}   B) {30}   C) {36.1}   D) {29}

4) _____

Answer: D
Objective: (8.4) Solve a Linear Equation Containing Decimals
final022 interactmath 8.3 #51

Solve the equation. State whether the equation is a contradiction, an identity, or a conditional equation.

5) $2(x + 3) = (2x + 6)$

    A) $\varnothing$ or { }; contradiction   B) {0}; conditional equation
    C) all real numbers; identity   D) {12}; conditional equation

5) _____

Answer: C
Objective: (8.4) Classify a Linear Equation as an Identity, Conditional, or a Contradiction
final025 interactmath 8.3 #65

Solve for y.

6) $14x + 9y = 10$

    A) $y = \dfrac{10 - 14x}{9}$ B) $y = \dfrac{14}{9}x - \dfrac{10}{9}$ C) $y = \dfrac{14x - 10}{9}$ D) $y = \dfrac{14x + 10}{9}$

6) _____

Answer: A
Objective: (8.5) Solve a Formula for a Variable
final041 interactmath 8.4 #61

Solve the problem.

7) The sum of a number and three is negative eleven. Find the number.   7) _____

    A) 14   B) –14   C) –8   D) 0
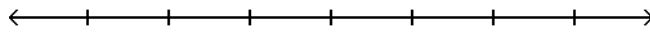
Answer: B

Objective: (8.6) Build Models for Solving Direct Translation Problems
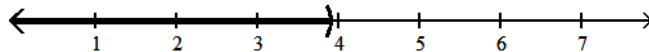
final042 interactmath 8.5 #61

Solve the inequality and express the solution set in interval notation. Graph the solution set on the real number line.
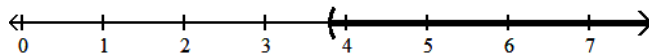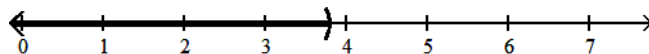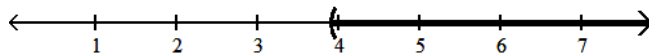
8) $1.4x - 3.8 > 0.7x - 1.07$ 8) _____

A) $(-\infty, 3.9)$

B) $(3.8, \infty)$

C) $(-\infty, 3.8)$

D) $(3.9, \infty)$

Answer: D

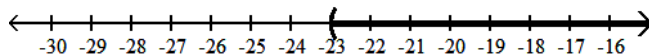Objective: (8.9) Solve Linear Inequalities Using Properties of Inequality

final067 interactmath 8.8 #115

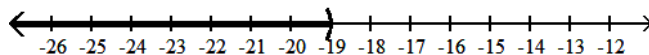9) $6x - 2 < 7(x - 3)$ 9) _____
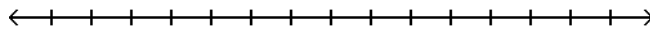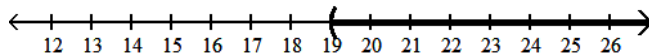
A) $(-23, \infty)$

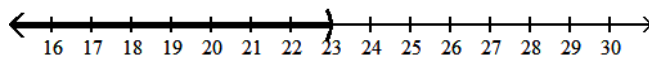B) $(-\infty, -19)$

C) $(19, \infty)$

D) $(-\infty, 23)$

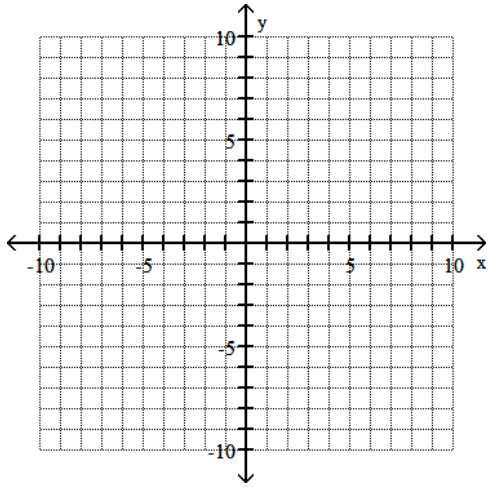Answer: C

Objective: (8.9) Solve Linear Inequalities Using Properties of Inequality

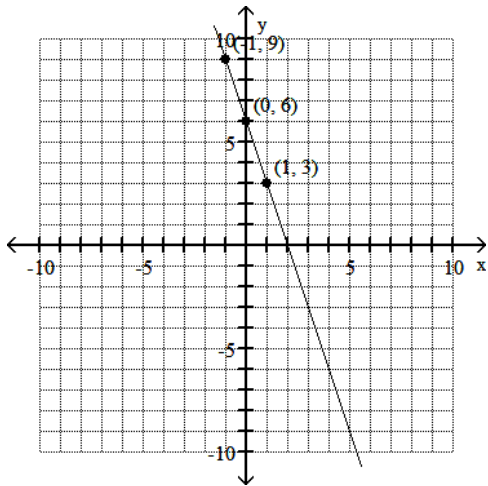final068 interactmath 8.8 #75 quick check 8.8.17

Graph the linear equation using the point-plotting method.
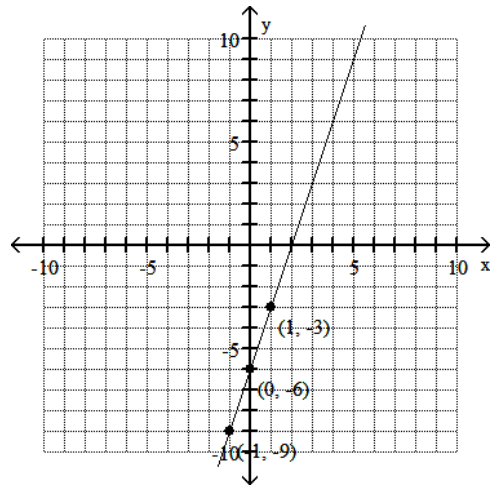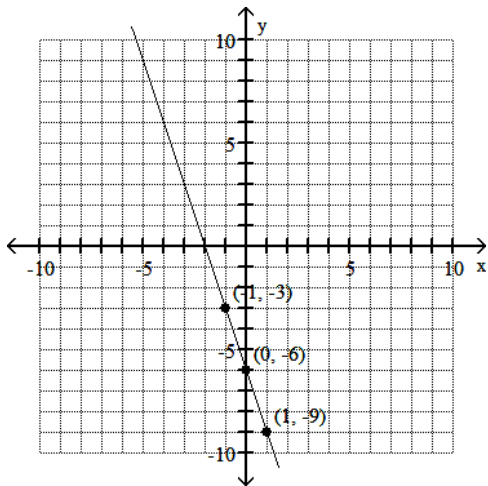
2

10) $y = -3x - 6$

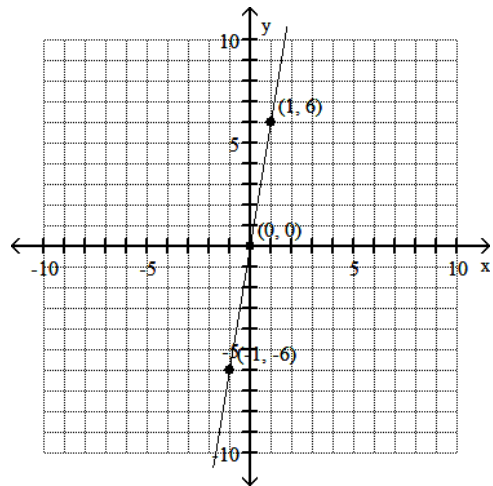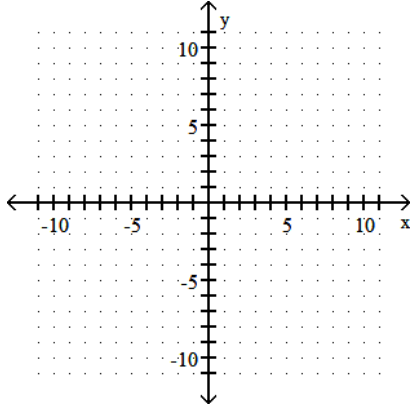10) _____

A)

B)

C)

D)

Answer: C

Objective: (9.3) Graph a Line by Plotting Points

final076 interactmath 9.2 #37

3

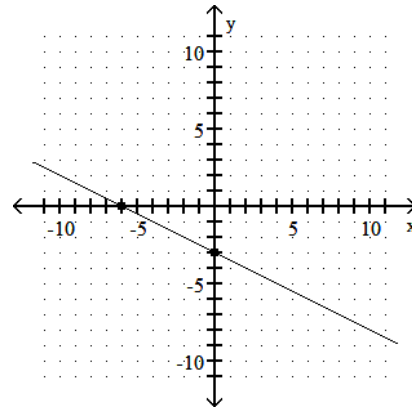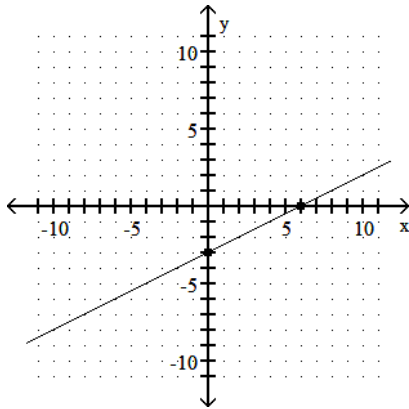Graph the linear equation by finding and plotting its intercepts.

11) -5x - 10y = 30

11) _____

A) (0, -3), (6, 0)

B) (0, -3), (-6, 0)

Answer: B

Find the slope of the line containing the two points.

12) (1, -5); (-9, 6)

12) _____

A) $-\dfrac{11}{10}$

B) $-\dfrac{10}{11}$

C) $\dfrac{11}{10}$

D) $\dfrac{10}{11}$

Answer: A

Find the slope and the y-intercept.

13) 3x + y = 4

13) _____

A) $m = -\dfrac{1}{3}; b = \dfrac{4}{3}$

B) $m = -3; b = 4$

C) $m = \dfrac{3}{4}; b = \dfrac{1}{4}$

D) $m = 3; b = 4$

Answer: B

Find the equation of the line described. Write the equation in slope-intercept form, if possible.

14) (4, 3); slope = -3

14) _____

A) y = -3x + 15

B) x = -3y + 15

C) y = -3x - 15

D) x = -3y - 15

Answer: A

4

Determine if the lines parallel, perpendicular, or neither.

15) $L_1: y = 7x + 5$

    $L_2: y = -\dfrac{1}{7}x + 3$

    A) perpendicular   B) parallel   C) neither

15) _____

Answer: A

Solve the system of equations using substitution.

16) $\begin{cases} x + y = -6 \\ y = 2x \end{cases}$

    A) $(-2, 4)$ B) $(-2, -4)$ C) $(2, 4)$ D) $(2, -4)$

16) _____

Answer: B

Solve the system of equations using elimination.

17) $\begin{cases} x - 4y = 17 \\ -3x - 5y = 51 \end{cases}$

    A) $(-8, -5)$ B) $(-7, -6)$ C) $(7, -5)$ D) no solution

17) _____

Answer: B

Subtract the polynomials. Express your answer in standard form.

18) $(7x^2 + 20x + 5) - (5x^2 - 4x - 12)$

    A) $2x^2 + 24x - 7$ B) $2x^2 + 25x - 7$ C) $43x^9$ D) $2x^2 + 24x + 17$

18) _____

Answer: D

Simplify the expression.

19) $(-8x^9y^8z)^2$

    A) $-8x^{11}y^{10}z$ B) $-64x^{18}y^{16}z^2$ C) $16x^{18}y^{16}z^2$ D) $64x^{18}y^{16}z^2$

19) _____

Answer: D

Multiply the monomials.

20) $(7x^6y)(8x^2y^4)$

    A) $56x^8y^5$ B) $56x^8y^4$ C) $56x^{12}y^4$ D) $15x^8y^4$

20) _____

Answer: A

Find the product of the sum and difference of two terms.

21) $(7p + 9)(7p - 9)$

    A) $49p^2 - 81$ B) $p^2 - 81$

    C) $49p^2 + 126p - 81$ D) $49p^2 - 126p - 81$

21) _____

Answer: A

Find the product.

22) $(6x - 11y)^2$ 22) _____

    A) $36x^2 + 121y^2$ B) $6x^2 + 121y^2$

    C) $36x^2 - 132xy + 121y^2$ D) $6x^2 - 132xy + 121y^2$

Answer: C

23) $(2y + 11)(5y^2 - 2y - 9)$ 23) _____

    A) $10y^3 + 51y^2 - 40y - 99$ B) $10y^3 + 59y^2 + 40y + 99$

    C) $65y^2 - 26y - 117$ D) $10y^3 - 4y^2 - 18y + 11$

Answer: A

Use the Quotient Rule to simplify. All variables are nonzero.

24) $\dfrac{56m^{20}n^{14}}{7m^{19}n^{10}}$ 24) _____

    A) $8n^4$ B) $8mn^4$ C) $56mn^4$ D) $8m^{39}n^{24}$

Answer: B

Use the Quotient to a Power Rule to simplify. All variables are nonzero.

25) $\left(\dfrac{6t^3}{3s^4}\right)^2$ 25) _____

    A) $\dfrac{4t^6}{s^4}$ B) $\dfrac{4t^6}{s^8}$ C) $\dfrac{4t^5}{s^6}$ D) $\dfrac{2t^6}{s^8}$

Answer: B

Use the Negative Exponent Rules to simplify. Write the answer with positive exponents. All variables are nonzero.

26) 3^{-4} 26) _____

    A) -81 B) $\dfrac{1}{81}$ C) $\dfrac{1}{12}$ D) 81

Answer: B

Find the quotient using long division.

27) $\dfrac{3m^2 + 17m - 56}{m + 8}$ 27) _____

    A) $3m - 7 + \dfrac{6}{m - 7}$ B) $m - 7$ C) $3m - 7$ D) $3m + 7$

Answer: C

Factor the trinomial completely. If the trinomial cannot be factored, say it is prime.

28) $x^2 + x - 20$

    A) $(x - 5)(x + 4)$ B) $(x + 1)(x - 20)$ C) prime   D) $(x - 4)(x + 5)$

28) _____

    Answer: D

Factor completely. If the polynomial is prime, state so.

29) $81x^2 - 16y^2$

    A) $(9x + 4y)(9x - 4y)$ B) prime

    C) $(9x + 4y)^2$ D) $(9x - 4y)^2$

29) _____

    Answer: A

Find the function value.

30) Find $f(3)$ when $f(x) = x^2 + 3x - 4$.

    A) -4   B) 4   C) 22   D) 14

30) _____

    Answer: D